

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

NO. C 03-02289 JW

In re Ricoh Company Ltd. Patent Litigation

**ORDER GRANTING SYNOPSYS'
MOTION FOR SUMMARY JUDGMENT
OF NONINFRINGEMENT; DENYING
RICOH'S MOTION *IN LIMINE* AS
PREMATURE**

I. INTRODUCTION

This is a patent infringement case. Plaintiff is Synopsys, Inc. ("Synopsys"). Defendant is Ricoh Company Ltd. ("RicoH"). RicoH is the owner of U.S. Patent No. 4,922,432 ("the '432 Patent"). RicoH alleges that Synopsys' customers ("Customer Defendants")¹ infringe certain claims of the '432 Patent. In response, Synopsys asserts that the '432 Patent is invalid, unenforceable, and not infringed by any Synopsys product, and seeks declaratory relief.²

Presently before the Court are (1) Synopsys and Customer Defendants' Renewed Motion for Summary Judgment of Noninfringement,³ and (2) RicoH's Motion *in Limine* to Exclude the Dirkes

¹ Customer Defendants are Aeroflex Incorporated, Aeroflex Colorado Springs, Inc., AMI Semiconductor, Inc., Matrox Electronic Systems, Ltd., Matrox Graphics, Inc., Matrox International, Inc., and Matrox Tech, Inc.

² Synopsys also asserts similar claims for declaratory relief as to U.S. Patent No. 5,197,016 (the "'016 Patent"). (See Amended Complaint for Declaratory Judgment, Docket Item No. 75.)

³ (hereafter, "Motion for Summary Judgment," Docket Item No. 662, filed under seal.)

Report and Testimony or Reliance Thereon.⁴ The Court conducted a hearing on March 8, 2010.⁵ Based on the papers submitted to date and oral argument, the Court GRANTS Synopsys' Motion for Summary Judgment of Noninfringement and DENIES Ricoh's Motion *in Limine* as premature.

II. BACKGROUND

A. The '432 Patent

A complete background of the technology is provided in the Court's April 7, 2005 Claim Construction Order. (Docket Item No. 229.) The Court reviews the asserted Claim 13 of the '432 Patent for the purposes of this Motion. Claim 13 provides:

13. A computer-aided design process for designing an application specific integrated circuit which will perform a desired function comprising
 storing a set of definitions of architecture independent actions and conditions;
 storing data describing a set of available integrated circuit hardware cells for performing the actions and conditions defined in the stored set;
 storing in an expert system knowledge base a set of rules for selecting hardware cells to perform the actions and conditions;
 describing for a proposed application specific integrated circuit a series of architecture independent actions and conditions;
 specifying for each described action and condition of the series one of said stored definitions which corresponds to the desired action or condition to be performed; and
 selecting from said stored data for each of the specified definitions a corresponding integrated circuit hardware cell for performing the desired function of the application specific integrated circuit, said step of selecting a hardware cell comprising applying to the specified definition of the action or condition to be performed, a set of cell selection rules stored in said expert system knowledge base and generating for the selected integrated circuit hardware cells, a netlist defining the hardware cells which are needed to perform the desired function of the integrated circuit and the interconnection requirements therefor.

('432 Patent, Col. 16:34-65.)

B. Procedural History

On January 21, 2003, Ricoh sued six of Synopsys' customers, all of who designed and manufactured computer chips using Synopsys' software, in the District of Delaware, alleging

⁴ (hereafter, "Motion *in Limine*," Docket Item No. 653.)

⁵ The Court GRANTS Ricoh's Administrative Motion for Leave to File a Memorandum Clarifying the Record Regarding Representations Made by Defendants During the March 8, 2010 Hearing. (See Docket Item No. 694.) Upon consideration of Ricoh's Memorandum, the Court finds that it does not change its analysis.

infringement of process claims in the ‘432 Patent. On June 5, 2003, after assuming the defense of its customers pursuant to indemnification agreements, Synopsys filed this declaratory judgment action, asserting non-infringement of the ‘432 Patent and U.S. Patent No. 5,197,016. The original Delaware action was then transferred to this District.

On April 7, 2005, the Court issued its Claim Construction Order, construing the language of Claim 13 of the ‘432 Patent. In January and February 2006, two *ex parte* requests for reexamination of the ‘432 Patent were filed with the U.S. Patent and Trademark Office (“PTO”), both of which were granted. On November 21, 2006, the PTO issued an Office Action, in which the PTO rejected all claims in the ‘432 Patent. On December 14, 2006, the Court stayed this action pending resolution of the PTO reexamination proceedings. (See Docket Item No. 542.) On April 16, 2008, the Court lifted the stay. (See Docket Item No. 548.)

Based on the construction of a particular phrase in the April 7, 2005 Claim Construction Order, Synopsys filed a Motion for Summary Judgment of Noninfringement of the ‘432 Patent. (Docket Item No. 571.) In the course of considering the motion, the Court determined to reconsider the April 7, 2005 interpretation of the subject phrase and thus, denied Synopsys’ Motion as premature. (Docket Item No. 621.) On October 23, 2009, the Court issued its Revised Claim Construction Order. (Docket Item No. 644.) The Court’s focus was the phrase “storing a set of definitions of architecture independent actions and conditions,” which the Court construed to mean:

storing a set of instructions of actions or conditions to which a circuit could be subjected that are not dependent on any particular arrangement of hardware cells to perform the actions or create or maintain the conditions.

(Revised Claim Construction Order at 7.)

Presently before the Court are Synopsys and Customer Defendants’ Renewed Motion for Summary Judgment of Noninfringement and Ricoh’s Motion *in Limine* to Exclude the Dirkes Report.

III. STANDARDS

Summary judgment is proper “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any

1 material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P.
2 56(c). The purpose of summary judgment “is to isolate and dispose of factually unsupported claims
3 or defenses.” Celotex v. Catrett, 477 U.S. 317, 323-24 (1986).

4 The moving party “always bears the initial responsibility of informing the district court of
5 the basis for its motion” Id. at 323. “The judgment sought should be rendered if the pleadings,
6 the discovery and disclosure materials on file, and any affidavits show that there is no genuine issue
7 as to any material fact and that the movant is entitled to judgment as a matter of law.” Fed. R. Civ.
8 P. 56(c). The non-moving party “may not reply merely on allegations or denials in its own pleading;
9 rather, its response must—by affidavits or as otherwise provided in this rule—set out specific facts
10 showing a genuine issue for trial.” Fed. R. Civ. P. 56(e).

11 When evaluating a motion for summary judgment, the court views the evidence through the
12 prism of the evidentiary standard of proof that would pertain at trial. Anderson v. Liberty Lobby
13 Inc., 477 U.S. 242, 255 (1986). The court draws all reasonable inferences in favor of the non-
14 moving party, including questions of credibility and of the weight that particular evidence is
15 accorded. See, e.g., Masson v. New Yorker Magazine, Inc., 501 U.S. 496, 520 (1992). The court
16 determines whether the non-moving party’s “specific facts,” coupled with disputed background or
17 contextual facts, are such that a reasonable jury might return a verdict for the non-moving party.
18 T.W. Elec. Serv. v. Pac. Elec. Contractors, 809 F.2d 626, 631 (9th Cir. 1987). In such a case,
19 summary judgment is inappropriate. Anderson, 477 U.S. at 248. However, where a rational trier of
20 fact could not find for the non-moving party based on the record as a whole, there is no “genuine
21 issue for trial.” Matsushita Elec. Indus. Co. v. Zenith Radio, 475 U.S. 574, 587 (1986).

22 **IV. DISCUSSION**

23 Synopsys and Customer Defendants move for summary judgment of noninfringement of the
24 ‘432 Patent on the grounds that (1) the design input files to Synopsys’ Design Compiler software
25 program are not “architecture independent” as required by the asserted process claim, and (2)
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Customer Defendants do not perform all of the steps of the asserted process claim. (Motion for Summary Judgment at 2.) The Court addresses the second ground first, since it may be dispositive.⁶

A. Whether Customer Defendants Perform all of the Steps of Claim 13

Synopsys and Customer Defendants move for summary judgment on the ground there can be no infringement because Customer Defendants do not perform all steps of Claim 13.⁷ Synopsys contends that it, not its customers, performs the step of “storing in an expert system knowledge base a set of rules for selecting hardware cells to perform the actions and conditions.”⁸ Ricoh contends that Customer Defendants perform *all* steps of the asserted process claim and that the “storing” step is practiced by the Customer Defendants when they install and execute Synopsys’ software on their computers. (Opposition at 5-6.)

Since this dispute turns on the meaning of the “storing” step—a limitation that the Court has not previously construed—the Court first determines the meaning of the “storing” step.

1. Construction of the “Storing” Step of Claim 13

At issue is the meaning of the phrase “storing in an expert system knowledge base a set of rules for selecting hardware cells to perform the actions and conditions” in Claim 13.⁹

⁶ Since the parties have filed a significant amount of the evidence for these Motions under seal, this Order only summarizes the evidence and provides general citations to the evidence but does not refer in detail to the sealed contents of any specific document to protect the parties’ confidential information.

⁷ (Motion for Summary Judgment at 1.) Claim 13 is the only independent claim asserted by Ricoh. (Rico’s Opposition to Defendants’ Renewed Motion for Summary Judgment of Non-Infringement at 5, hereafter, “Opposition,” Docket Item No. 676, filed under seal.) Since all other asserted claims depend from Claim 13, they cannot be infringed if Claim 13 is not infringed. See Wahpeton Canvas Co., Inc. v. Frontier, Inc., 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989).

Additionally, Ricoh has accused only Customer Defendants, not Synopsys, of infringement of the ‘432 Patent. (See Opposition at 1 n.1.)

⁸ For convenience, the Court refers to this step as the “storing” step.

⁹ Claim construction is a matter of law, to be decided exclusively by the Court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 387 (1996). A court may construe terms of a patent in the course of deciding a motion for summary judgment so long as “the non-moving party [had] notice and an opportunity to present evidence and argument in opposition.” See Eon-Net LP v. Flagstar Bancorp., 249 Fed. Appx. 189, 193-94 (Fed. Cir. 2007). Here, Ricoh has had the requisite notice and opportunity to present evidence and argument regarding the proper construction of the

Of relevance to the Motion for Summary Judgment is *who* performs the storing step. Claim 13 does not elaborate on the meaning of the “storing” step in this regard. In the summary of the invention, the inventors described generally the role of an expert knowledge base in the invention:

[T]he present invention, for the first time, opens the possibility for the design and production of ASICs by designers, engineers and technicians who may not possess the specialized expert knowledge of a highly skilled VLSI design engineer. . . . The user interface of [the invention] is a flowchart editor which allows the designer to represent VLSI systems in the form of a flowchart. The [invention] utilizes a knowledge based expert system, with a knowledge base extracted from expert ASIC designers with a high level of expertise in VLSI design to generate from the flowchart a netlist which describes the selected hardware cells and their interconnection requirements.

(‘432 Patent, Col. 2:15-64.) The summary makes clear that the purpose of the invention is to allow a user of the invention to design an ASIC without possessing the expertise of a VLSI design engineer or expert ASIC designer. However, this does not inform a person of skill in the art as to *who* performs the step of “storing” expert information in the knowledge base.

The written description describes the storing of rules in the knowledge base as follows:

[The invention includes] a cell selector 32 for selecting the cells required for system design. . . . The cell selector uses a knowledge base extracted from VLSI design experts to make the cell selection. The knowledge base of Cell Selector 32 contains information (rules) relating to: (1) selection of macros; (2) merging two macros; (3) mapping of macros to cells; (4) merging two cells; and (5) error diagnostics. This information is stored in the knowledge base 35 as rules.

PSCS [the portion of the invention that includes the cell selector] contains the following knowledge for netlist generation: (1) Data path synthesis; (2) Data path optimization; (3) Macro definitions; (4) Cell library; and (5) Error detection and correction. This information is stored in the knowledge base 35 as rules. Knowledge engineers help in the formulation of these rules from ASIC design experts.

PSCS provides an interactive rule editor which enables the expert to update the rule set. The rules are stored in a database so that editing capabilities of the database package can be used for rule editing. To perform this operation the expert needs to be familiar with the various knowledge structures and the inferencing process. If this is not possible, then the help of a knowledge engineer is needed.

“storing” step because it is one of the primary issues raised by the moving papers. Indeed, Ricoh’s position is that “‘storing’ is easily understood by a jury and should need no further claim construction.” (Opposition at 22.)

In order to make the [VLSI] expert understand the structure of the knowledge base, the rule language provides means for knowledge representation. This will enable the format of data structures to be stated in the rule base, which will enable the expert to refer to them and understand the various structures used by the system.

(‘432 Patent, Col. 4:66-68, 8:29-69, 9:1-5, 10:1-55, 11:29-37.)¹⁰

The written description describes a system in which VLSI experts create rules or information—sometimes with the assistance of a knowledge engineer—that are recorded in a knowledge base.¹¹ In describing this process, the written description discloses that the rules created by the experts are stored in the knowledge base. The knowledge base then becomes part of the overall system that a user without expert knowledge can use to design an ASIC:

The primary elements or modules which comprise the KBSC system are shown in FIG. 3. . . . [T]he KBSC system 10 includes a program 20 called EDSIM, which comprises a flowchart editor 21 for creating and editing flowcharts and a flowchart simulator 22 for simulation and verification of flowcharts. . . . A program 30 called PSCS (path synthesizer and cell selector) includes a data and control path synthesizer module 31, which is a knowledge based system for data and control path synthesis. PSCS also includes a cell selector 32 for selecting the cells required for system design. The cell selector 32 selects from a cell library 34 of previously designed hardware cells the appropriate cell or cells required to perform each action and condition represented in the flowchart. . . . The knowledge base 35 contains ASIC design expert knowledge required for data path synthesis and cell selection. Thus, with a functional flowchart input, PSCS generates a system controller, selects all other hardware cells, generates data and control paths, and generates a netlist describing all of this design information.

(‘432 Patent, Col. 4:49-5:13 & Fig. 3.)

The Court finds that in describing the invention, the inventors used the term “storing” in its ordinary meaning, “to place or leave in a location (as a warehouse, library, or computer memory) for preservation or later use or disposal.” See WEBSTER’S NINTH NEW COLLEGIATE DICTIONARY 1162 (1991). By placing something into a location, the contents of the location are necessarily modified

¹⁰ The written description also uses “storing” to describe saving the result of a mathematical operation—*e.g.*, “Action 3 comprises adding the values of registers A and B and storing the result in register C.” (‘432 Patent, Col. 6:12-14.) However, as explained below, this use of “storing” does not change the Court’s analysis because it is consistent with the term’s ordinary meaning.

¹¹ The Court has previously construed “expert system knowledge base” as two discreet phrases, “expert system” and “knowledge base,” and defined each one. (See April 7, 2005 Claim Construction Order at 14-17.) The Court construed “expert system” as “software that solves problems through selective application of rules in the knowledge base.” (*Id.* at 17.) The Court construed “knowledge base” as “a portion of an expert system software having a set of rules and embodying expert knowledge of highly skilled VLSI designers.” (*Id.*)

1 to include the thing that is stored. This understanding of “storing” comports with the Court’s prior
 2 construction of “knowledge base” as software that contains rules. The storing step describes how
 3 the rules become part of the knowledge base. Consistent with this understanding of “storing” rules,
 4 the written description distinguishes between *storing rules* in a knowledge base and *storing the*
 5 *knowledge base itself* in computer memory:

6 The knowledge base of Cell Selector 32 contains information (rules) [that are] stored
 7 in the knowledge base 35 The KBSC system can be operated on a suitable programmed
 general purpose digital computer. . . . Main memory stores the . . . knowledge base.

8 (‘432 Patent, Col. 5:49-66, 8:65-9:1-5.) Thus, a skilled artisan would understand that storing rules
 9 in a knowledge base is something different than storing the knowledge base itself.

10 The Court rejects Ricoh’s contention that any construction of the “storing” step that does not
 11 cover the circumstance of an end user—*i.e.*, an ASIC designer without expert knowledge in VLSI
 12 design—placing rules into the knowledge base excludes the preferred embodiment of the invention.
 13 (See Opposition at 23-24.) Ricoh cites no portion of the ‘432 Patent that states that the preferred
 14 embodiment of the invention requires the end user of the system to place rules into the knowledge
 15 base.

16 Accordingly, as used in Claim 13 of the ‘432 Patent, the Court construes “storing in an
 17 expert system knowledge base a set of rules for selecting hardware cells to perform the actions and
 18 conditions,” to mean:

19 **storing a set of rules into an expert system knowledge base for selecting hardware cells**
 20 **to perform the actions and conditions, which is a different process than storing the**
 knowledge base itself.

21 **2. Whether Customer Defendants Practice the Storing Step**

22 At issue is whether Customer Defendants practice the “storing” step.

23 “[D]irect infringement requires a single party to perform every step of a claimed method.

24 Accordingly, where the actions of multiple parties combine to perform every step of a claimed
 25 method, the claim is directly infringed only if one party exercises ‘control or direction’ over the
 26 entire process such that every step is attributable to the controlling party, *i.e.*, the ‘mastermind.’”
 27 Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1329 (Fed. Cir. 2008). On the other hand,

“mere ‘arms-length cooperation’ will not give rise to direct infringement by any party.” Id. Rather, “the control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method.” Id. at 1330.

Here, it is undisputed that the Customer Defendants, the users of Synopsys’ software, do not create the expert “rules for selecting hardware cells” that are placed into the knowledge base.¹² Instead, the rules are created by Synopsys (with VLSI design experts) and placed by Synopsys into the knowledge base that is part of the Design Compiler software sold by Synopsys to Customer Defendants.¹³ Further, there is no evidence that Customer Defendants direct and control the process of placing or storing rules into the knowledge base in Synopsys’ Design Compiler. The Court finds that under the undisputed evidence, no reasonable jury could find that Customer Defendants perform the “storing” step of Claim 13. Thus, no reasonable jury could find that Customer Defendants directly¹⁴ infringe Claim 13 or any claim that depends from Claim 13.

Accordingly, the Court GRANTS Synopsys and Customer Defendants’ Motion for Summary Judgment on this ground.¹⁵

V. CONCLUSION

The Court GRANTS Synopsys and Customer Defendants’ Motion for Summary Judgment of Noninfringement. In light of this Order, the Court DENIES Ricoh’s Motion *in Limine* as premature.

¹² (See Declaration of Donald Soderman in Support of Ricoh’s Opposition to Defendants’ Renewed Motion for Summary Judgment of Non-infringement ¶ 9, hereafter, “Soderman Decl.,” Docket Item No. 677, filed under seal; Declaration of Jay Adams in Support of Synopsys’ and Customer Defendants’ Renewed Motion for Summary Judgment of Noninfringement ¶ 23, hereafter, “Adams Decl.,” Docket Item No. 657, filed under seal; see also Declaration of Richard G. Frenkel in Support of Synopsys’ and Customer Defendants’ Renewed Motion for Summary Judgment of Noninfringement, Exs. 7 at 7-13, 11 at 244:8-245:13, hereafter, “Frenkel Decl.,” Docket Item No. 658, filed under seal.)


¹³ (Adams Decl. ¶ 23; Frenkel Decl., Exs. 7 at 7-13, 11 at 244:8-245:13.)

¹⁴ Ricoh has accused Customer Defendants of direct infringement only, not contributory infringement. (See Frenkel Decl., Ex. 7; Motion for Summary Judgment at 1 n.1.)

¹⁵ Since the Court grants the Motion for Summary Judgment on this ground, the Court does not reach Synopsys and Customer Defendants’ other ground for summary judgment.

On **May 10, 2010 at 10 a.m.**, the parties shall appear for a Case Management Conference.
On or before **April 30, 2010**, the parties shall file a Joint Case Management Statement. The
Statement shall include an update on the parties' settlement efforts and proposed schedule as to how
this case should proceed in light of this Order.

Dated: April 14, 2010



JAMES WARE
United States District Judge

THIS IS TO CERTIFY THAT COPIES OF THIS ORDER HAVE BEEN DELIVERED TO:

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Dated: April 14, 2010

Richard W. Wieking, Clerk

**By: /s/ JW Chambers
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